The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KOUKI HATAKEYAMA

Appeal No. 2002-0610
Application No. 08/841,318

HEARD: February 20, 2003

Before HAIRSTON, RUGGIERO, and BLANKENSHIP, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-7 and 9, which are all the claims remaining in the application.

We affirm.

BACKGROUND

The invention is directed to a method of controlling an electronic still camera having an electronic view finder for displaying a moving picture of the photographic subject. Representative claims 1 and 7 are reproduced below.

> 1. A method of controlling an electronic still camera having a solid state imaging device including a plurality of adjacent horizontal scanning lines of individual pixels intersected by a plurality of adjacent color filters, each of a distinct color, forming columns in the solid state imaging device so that individual pixels of the plurality of adjacent horizontal scanning lines within a particular color filter detect a same color, an electronic view finder for displaying a moving picture of a photographic subject by interlace-scanning, and a recording device for recording a still picture of the photographic subject as digital data on a recording medium in response to a shutter release operation, comprising:
>
> obtaining field image signals of an odd field by adding a signal charge stored in each of those pixels aligned in even horizontal scanning lines to a signal charge stored in one of those pixels detecting the same color in one of two adjacent odd horizontal scanning lines, each of those pixels in the even and adjacent odd scanning lines vertically aligned within the same color filter;
>
> obtaining field image signals of an even field by adding the signal charge of each pixel of the even horizontal scanning lines to a signal charge stored in one of those pixels detecting the same color in the other of two adjacent odd horizontal scanning lines;
>
> displaying a frame of the moving picture based on the field image signals for the odd and even fields;
>
> detecting signal levels of the field image signals;
>
> starting, in response to the shutter release operation, to read signal charges stored in the individual pixels by sequential scanning each horizontal scanning line, to provide image signals of one frame to record; and
>
> determining signal levels of the image signals to record based on the signal levels of the field image signals.

7. A method of controlling an electronic still camera, comprising:

determining a first charge storage time for a movie mode, said first charge storage time stored in memory;

sending the first charge storage time to a solid state imaging device in the movie mode;

shifting the camera from the movie mode to a recording mode;

determining a second charge storage time by applying a doubling factor to said stored first charge storage time; and

sending the second charge storage time to the solid state imaging device in the recording mode, thereby allowing for luminance and balance of a recorded still picture to be set in the same range as a moving picture displayed on an electronic view finder of the still camera.

The examiner relies on the following references:

Sugihara[1]	4,151,553	Apr. 24, 1979
Sasaki	4,837,628	Jun. 6, 1989
Iura et al. (Iura)	5,847,756	Dec. 8, 1998 (filed Apr. 7, 1995)

Claims 1-6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Iura, Sasaki, and Sugihara.

Claims 7 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Iura.

Claims 8 and 10 have been canceled.

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[1] The Answer lists U.S. patent 4,151,553 (Sugihara) as prior art relied upon. However, the statement of the rejection of claims 1-6 refers to U.S. patent 4,054,915 (Sugihara). From the discussion of "Sugihara" by the examiner and appellant, we find that both are referring to Sugihara '553. At the oral hearing, counsel for appellant confirmed that appellant recognizes Sugihara '553 as the reference underlying the rejection of claims 1-6.

We refer to the Final Rejection (Paper No. 16) and the Examiner's Answer (Paper No. 21) for a statement of the examiner's position and to the Brief (Paper No. 20) and the Reply Brief (Paper No. 22) for appellant's position with respect to the claims which stand rejected.

OPINION

Grouping of Claims

In accordance with appellant's grouping of claims (Answer at 11) and arguments presented in support thereof, we will consider each of claims 1, 3, 4, 7, and 9 separately. We select claim 1 as representative of claims 1, 2, and 5, and claim 3 as representative of claims 3 and 6. See 37 CFR § 1.192(c)(7).

Rejection over Iura

The examiner sets forth the rejection of claims 7 and 9 under section 103 as being unpatentable over Iura at pages 7 through 9 of the Answer. Appellant argues (Brief at 16-18), with respect to claim 7, that Iura says nothing about utilizing any kind of multiplication factor for a charge storage time, depending on whether the camera is in the movie mode or still mode. According to appellant, the portions of the reference relied upon by the examiner do not describe manipulating charge storage time, but rather the amount of exposure. Appellant argues that the examiner has not explicitly

pointed out where Iura is deemed to disclose or suggest utilization of a specific doubling factor to double the charge storage time between movie and recording modes.

The examiner agrees (Answer at 11-12) that charge storage time is not charge amount. However, the examiner asserts that the reference teaches increasing the still image data exposure amount in the range of 1.5 to 3 times over that of the movie mode. Iura is relied upon as disclosing that the artisan knew that controlling exposure time, widening or closing the iris, or increasing or decreasing the gain were all ways to effect change in exposure amount. The examiner concludes that, based on the teaching that the change in exposure amount should be in the range of 1.5 to 3 times, the artisan would have considered it obvious to double the amount of exposure time when moving to the recording mode.

Iura at several places teaches that the total amount of the electric charges accumulated in the still picture mode should be 1.5 to 3.0 times as large as that in the motion picture mode (e.g., col. 5, ll. 1-15), and preferably about twice as large so that the output levels of the image sensor device in the still picture mode and in the motion picture mode are substantially equal. The reference provides several examples as to how the relative exposure amounts may be controlled.

Iura describes Figure 9 at column 11, line 53 through column 12, line 50, which shows the amount of exposure in the still picture mode (area B) to be 1.5 times as large as the amount of exposure in the motion picture mode (area A). Col. 12, ll. 24-30. The relative amounts of exposure are effected by controlling the iris value and the time of

exposure. The time of exposure for area A is one field period. The time of exposure for area B is three field periods. The time of exposure in the still mode is thus triple that in the motion picture mode. Iura at Figure 10 (and col. 13, ll. 1-41) describes another example in which the time of exposure in the still mode (area B) is 2.5 times that for the motion picture mode (area A).

While we agree with appellant to the extent that the examiner has not shown "a specific doubling factor" in the reference, we note that the rejection is based on obviousness rather than anticipation. In our view, the teachings of Iura support the examiner's finding that the reference would have suggested application of a "doubling factor" for the charge storage time in the recording mode as claimed. Iura discloses at least increasing the time for exposure 2.5 and 3.0 times in the still mode with respect to that of the motion picture mode. Iura thus teaches that ensuring the approximate match in output levels may be effected by increasing exposure time of the still mode over that of the motion picture mode. Iura would have suggested to one skilled in the art that increasing exposure time 2.0 times -- in combination with control of other factors (e.g., iris control) or, for that matter, in response to outside factors such as illumination of the subject (col. 13, ll. 7-14) -- would achieve the desired end of substantially matching output levels. We agree with the examiner that the reference is sufficient to demonstrate prima facie obviousness of the subject matter as a whole of instant claim 7. Burden is now appellant's to show that an ultimate conclusion of obviousness is untenable, which appellant has not done.

Appellant filed a supplemental paper via facsimile on February 11, 2003, directing our attention to In re Zurko, 258 F.3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001).[2] Appellant refers to page 8 of the Answer and submits as a quotation thereof: "Although not specifically disclosed by Iura, it would have been matter of common sense, that a storage time calculated/determined...(Emphasis added)." Appellant then submits that "[t]herefore, *In re Zurko*, (cited above), is further evidence that the rejection based on 'common sense' is not valid."

However, we do not consider the examiner's relevant finding to be based on "common sense" alone. The sentence at page 8 of the Answer is quoted only in part by appellant. The reference to the evidence of record not reproduced in appellant's supplemental paper refers to material at column 20 of Iura and the further disclosure of a microcomputer (e.g., Fig. 18). We find Iura's disclosure sufficient to support the finding that a storage time calculated or determined by the last electronic shutter signal and sent by way of a control signal to the shutter control circuit to the CCD is held/stored/memorized by the microcomputer, and thus would have suggested storing charge storage time in a memory in the process. Significantly, appellant does not

[2] Appellant's counsel at the oral hearing also advanced new arguments beyond those presented in the briefs and the supplemental paper. We will not address the new arguments because they could have been presented to the examiner in the Brief, thus allowing us to evaluate the arguments in light of the examiner's response in the Answer. See MPEP § 1206 at 1200-11 (8th ed. Aug. 2001) ("arguments not presented in the brief and made for the first time at the oral hearing are not normally entitled to consideration").

explain in the briefs or in the supplemental paper why storing the "first charge storage time" in memory may be thought to distinguish claim 7 over the teachings of Iura.

Since appellant has not shown that the examiner's case for prima facie obviousness is in error, we sustain the section 103 rejection of claim 7.

Turning to the rejection of claim 9 (Answer at 8-9), the examiner points to column 3, lines 10 through 15 of Iura as teaching that increasing the signal amplification factor can compensate for decrease in the amount of exposure brought about by a shortened exposure time (i.e., signal amplification and exposure time are inversely related in bringing about a chosen exposure amount). Appellant argues (Brief at 19-20) that the examiner has not shown that Iura would have suggested "setting a second gain of the amplifier in the recording mode by applying a doubling factor to said first set gain," as required by instant claim 9.

However, we consider the examiner's findings to be supported by Iura. As we have previously noted, Iura teaches that the total amount of the electric charges accumulated in the still picture mode should be 1.5 to 3.0 times as large as that in the motion picture mode, and preferably about twice as large. We agree that the portion of Iura relied upon by the rejection, combined with the teachings of the reference as a whole, would have suggested applying a doubling factor to the amplifier (e.g., amplifier 104; Fig. 2) when moving from a motion picture mode to a still picture mode to ensure that the total exposure amount in the still picture mode is roughly equal to that of the total exposure amount in the motion picture mode.

We further agree with the examiner that Iura teaches that ensuring the approximate match in exposure amounts may be controlled by increasing or decreasing exposure time, widening or closing the iris, and/or increasing amplifier gain. The Iura reference shows that the artisan would have considered the different methods of controlling ultimate exposure amount as different but equivalent ways to reach the desired result. That Iura shows several ways to control ultimate exposure amount does not make any of the alternatives less obvious than the others.

Thus, although Iura does not disclose a "specific doubling factor" to apply to the gain of the amplifier when moving to the still picture mode, we consider the evidence provided by the reference as sufficient to establish prima facie obviousness of the subject matter as a whole of instant claim 9. Appellant has not provided persuasive arguments or evidence to show that the conclusion is erroneous. We therefore sustain the section 103 rejection of claim 9 as being unpatentable over Iura.

Rejection over Iura, Sasaki, and Sugihara

With respect to representative claim 1, the examiner's statement of the section 103 rejection over Iura, Sasaki, and Sugihara is presented at pages 3 through 6 of the Answer. Appellant argues in the briefs that the examiner's finding of motivation to combine the references is erroneous.[3] Appellant's stated basis for the argument,

[3] The presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact. In re Gartside, 203 F.3d 1305, 1316, 53 USPQ2d 1769, 1776

however, is that appellant does not see "explicit statements" in the prior art to support the combination.

Particular findings must be made with respect to why the skilled artisan, with no knowledge of the claimed invention, would have selected components for combination in the manner claimed. In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). Suggestion for combination may come explicitly from the statements in the prior art. However, there is no requirement that the prior art contain an express suggestion to combine known elements to achieve the claimed invention. Rather, the suggestion to combine may come from the prior art, as filtered through the knowledge of one skilled in the art. Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461, 1472, 43 USPQ2d 1481, 1489 (Fed. Cir. 1997); see also Cable Elec. Prods., Inc. v. Genmark, Inc., 770 F.2d 1015, 1025, 226 USPQ 881, 886-87 (Fed. Cir. 1985) ("[T]he suggestion to modify the art to produce the claimed invention need not be expressly stated in one or all of the references used to show obviousness. 'Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.'") (quoting In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981)).

Appellant has not submitted reasons why any of the findings in support of the combination should be considered in error, other than the unpersuasive allegation that appellant does not see explicit statements in the references to support the combination.

(Fed. Cir. 2000).

Having not shown error in the examiner's finding of motivation to combine the references, we consider appellant's position to be untenable.[4]

Appellant's argument (Brief at 13-16) based on the language of the claims is that the references fail to disclose or suggest "each of those pixels in the even and adjacent odd scanning lines vertically aligned within the same color filter," as required by claim 1. Appellant also alleges that the examiner has not given weight to related language in the preamble of claim 1, whereby the electronic still camera of the method includes "a plurality of adjacent horizontal scanning lines of individual pixels intersected by a plurality of adjacent color filters, each of a distinct color, forming columns in the solid state imaging device so that individual pixels of the plurality of adjacent horizontal scanning lines within a particular color filter detect a same color."

The examiner responds (Answer at 11) that the rejection relies on Sugihara for teaching the limitations in controversy. The rejection (id. at 5-6) contends that Sugihara discloses a stripe color filter (Fig. 3) and the claimed interlace method at column 8, lines 1 through 10. Appellant responds in turn (Reply Brief at 4-6) that Sugihara's Figure 3 shows an image sensor with provision of "dot filters," referring to Sugihara column 7,

[4] Appellant also alleges (e.g. Brief at 12) that the examiner "has not identified a specific problem to be solved." However, appellant does not argue that identifying "a specific problem to be solved" is a necessary finding in every obviousness inquiry.

lines 26 through 28. Appellant contests the examiner's findings with respect to the teachings of the reference.[5]

Sugihara's Figure 3 clearly shows an arrangement whereby photoelements are arranged in columns having filters of the same color. Sugihara discloses (col. 7, ll. 25-46) that use of "dot filters" is merely exemplary. The reference also teaches (col. 3, ll. 22-25) that, when using a single image sensor, dot filters and stripe filters are equivalent. The reference further discloses (col. 1, ll. 44-45) that "[a] stripe filter often comprises a combination of vertical or oblique stripes." Sugihara also teaches in the section at column 7, lines 25 through 46 that the photoelements 21 of a single vertical column have the same color selectivity. The charges stored in the respective photoelements 21 are transferred vertically upward and then horizontally from output registers 22. A sequence of R, G, B, R, G, B is thus obtained.[6]

We thus find an adequate basis for the examiner's findings with respect to the teachings of Sugihara. We are not persuaded that the reference fails to teach the

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[5] What a reference teaches is a question of fact. In re Baird, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994); In re Beattie, 974 F.2d 1309, 1311, 24 USPQ2d 1040, 1041 (Fed. Cir. 1992).

[6] Appellant submits, in arguments ostensibly in support of alleged lack of motivation to combine, that "reading signal charges stored in individual pixels by sequential scanning each horizontal scanning line to provide image signals of one frame to record" is absent from the references (Reply Brief at 3). We consider the argument to be untimely; i.e., it could have been presented in the Brief, allowing us to evaluate the argument in light of the examiner's response in the Answer. In any event, appellant has not shown how either Sugihara's method for reading out pixels or the "well-known" technique described by Sasaki (col. 6, ll. 4-46) is any different from the claimed sequential scanning used for storage of non-interlaced images.

limitations of claim 1 that appellant argues as missing from the prior art. Accordingly, we sustain the section 103 rejection of claims 1, 2, and 5.

We have considered appellant's arguments in support of representative claims 3 and 4 (Brief at 20-22). We note that doubling storage time or amplifier gain would have been obvious for the reasons we have previously discussed with respect to the requirements of base claim 1. As for the doubling compared with that used "for the field image signals immediately before the shutter release operation," we refer to Figures 9 and 10 of Iura, previously discussed herein. The shutter button is depressed at time t_s; still image exposure begins at time t4. Iura's teachings with respect to when the charge storage time or amplifier gain are to be increased are consistent with the language of claims 3 and 4. We thus sustain the section 103 rejection of dependent claims 3, 4, and 6.

CONCLUSION

The rejection of claims 1-6 under 35 U.S.C. § 103 as being unpatentable over Iura, Sasaki, and Sugihara is affirmed. The rejection of claims 7 and 9 under 35 U.S.C. § 103 as being unpatentable over Iura is affirmed.

We have considered all of appellant's arguments in making our determinations. Arguments appellant could have presented in the Brief, but chose not to rely upon, are deemed waived. See 37 CFR § 1.192(a) ("Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and

Interferences, unless good cause is shown") and § 1.192(c)(8)(iv) (the brief must point out the errors in the rejection).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

KENNETH W. HAIRSTON
Administrative Patent Judge

JOSEPH F. RUGGIERO
Administrative Patent Judge

HOWARD B. BLANKENSHIP
Administrative Patent Judge

) BOARD OF PATENT
) APPEALS
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